AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein

a first conducting layer is displaced from a second conducting layer such that conduction between said conducting layers results when said conducting layers are mechanically forced together, wherein

the first of said conducting layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn,

a plurality of electrical conductors are connected to said conductive yarns in the first of said conducting layers thereby electrically grouping said conductive yarns to define a plurality of identifiable rows, thereby defining specific regions of the detector; ~~and~~

each said identifiable row has one of said electrical conductors at each of its opposing ends, thereby allowing different electrical potentials to be applied to each end of conductive yarn within a row; and

at least one identifiable row includes a plurality of lengths of conductive yarn in which one length of conductive yarn of the identifiable row is electrically isolated from another of said lengths of conductive yarn.

2. (Previously Presented) A detector according to claim 1, wherein said conductive yarn of said first layer extends in a first direction and said non-conductive yarn of said first layer extends in a second direction, said first direction being different to said second direction.

3. (Currently Amended) A detector according to claim 1, wherein the second of said conducting layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn;

the first of said conducting layers has conductive yarn extending in a first conducting direction and the second of said conducting layers has conductive yarn extending in a second ~~first~~ conducting direction;

the first conducting direction of the first conducting layer is different ~~to~~from the second ~~first~~ conducting direction of the second conducting layer;

a plurality of electrical conductors are connected to said conductive yarns in the second of said conducting layers thereby electrically grouping said conductive yarns to define a plurality of identifiable columns;

each said identifiable column has one of said electrical conductors; and

intersections of said columns and said rows define specific regions of the detector.

4. (Previously Presented) A detector according to claim 1, wherein said second conducting layer has conductive yarn extending in a first direction and conductive yarn extending in a second direction, said first direction being different to said second direction.

5. (Previously Presented) A detector according to claim 1, wherein said second conducting layer has non-conductive yarn extending in a first direction and conductive yarn extending in a second direction, said first direction being different to said second direction.

6. (Previously Presented) A detector according to claim 1, wherein a mechanical interaction has a first property and said detector is configured to present a first set of varying electrical characteristics in response to said first property of the mechanical interaction such that each varying electrical characteristic of said set of varying electrical characteristics corresponds to one of said specific regions.

7. (Previously Presented) A detector according to claim 1, wherein a degree of pressure is applied by a mechanical interaction and a varying electrical characteristic varies with the degree of pressure applied by the mechanical interaction.

8. (Previously Presented) A detector according to claim 1, wherein a force is applied at a position by a mechanical interaction and a varying electrical characteristic varies with the position of the force applied by the mechanical interaction.

9. (Previously Presented) A detector according to claim 8, wherein the mechanical interaction has a second property, said second property being different to the force applied by the mechanical interaction, and said detector is configured to present a second set of varying electrical characteristics in response to said second property of the mechanical interaction.

10. (Previously Presented) A detector according to claim 9, wherein said second property is the degree of pressure applied by the mechanical interaction.

11. (Previously Presented) A detector according to claim 1, wherein a partially electrically conducting layer of fabric is disposed between said first and second conducting layers.

12. (Previously Presented) A detector according to claim 1, wherein said first conducting layer and said second conducting layer are separated by two layers of electrically insulating fabric and said two layers of electrically insulating fabric are separated by a partially electrically conducting layer of fabric.

13. (Previously Presented) A detector according to claim 1, wherein a force is applied at a position by a mechanical interaction and a potential gradient is applied across at least one of said specific regions to determine the position of the force applied by the mechanical interaction.

14. (Cancelled)

15. (Previously Presented) A detector according to claim 3, wherein each said identifiable column has an electrical conductor at each of its opposing ends.

16. (Previously Presented) A detector according to claim 1, wherein said first conducting layer and said second conducting layer constitute single fabric which is constructed to comprise an upper portion and a lower portion,

said upper portion comprising non-conductive yarn having insulating fibres extending in a weft direction and conductive yarn having conducting fibres extending in a warp direction, and

said lower portion comprising conductive yarns having conducting fibres extending in said weft direction and non-conductive yarns having insulating fibres extending in said warp direction.

17. (Previously Presented) A detector according to claim 16, wherein said upper and lower portions are periodically attached by the inclusion of one of the non-conductive yarns from one of the upper and lower portions in the other of the upper and lower portions.

18. (Previously Presented) A detector according to claim 1, wherein said first conducting layer;

said second conducting layer has non-conductive yarn having insulating fibres and conductive yarn having conducting fibres and,

said conducting layers are fabricated such that portions of the insulating fibres stand proud of the conducting fibres.

19. (Previously Presented) A detector according to claim 18, wherein said insulating fibres have a larger dimension than said conducting fibres.

20. (Previously Presented) A detector according to claim 1, wherein said fabric is constructed using a weaving process.

21. (Previously Presented) A detector according to claim 1, wherein said fabric is constructed using a knitting process.

22. (Previously Presented) A detector according to claim 1, wherein said detector is configured for use as a bed mattress cover.

23. (Previously Presented) A detector according to claim 1, wherein said detector is configured for use as a keyboard.

24. (Cancelled)

25. (Currently Amended) A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein

a first conducting layer is displaced from a second conducting layer such that conduction between said layers results when said layers are mechanically forced together,

the first of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn,

a plurality of electrical conductors are connected to said conductive yarns in the first of said conducting layers thereby electrically grouping said conductive yarns to define a plurality of identifiable rows, thereby defining specific regions of the detector;

each said identifiable row has one of said electrical conductors;

at least one identifiable row includes a plurality of lengths of conductive yarn in which one length of conductive yarn of the identifiable row is electrically isolated from another of said lengths of conductive yarn;

a force is applied at a position by a mechanical interaction; and

a potential gradient is applied across at least one of said specific regions to determine the position of the force applied by the mechanical interaction.

26. (Previously Presented) A detector according to claim 25, wherein the second of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn;

the first of said conducting layers has conductive yarn extending in a first conducting direction and the second of said conducting layers has conductive yarn extending in a second first conducting direction;

the first conducting direction of the first conducting layer is different to the second first conducting direction of the second conducting layer;

a plurality of electrical conductors are connected to said conductive yarns in the second of said layers thereby electrically grouping said conductive yarns to define a plurality of identifiable columns;

each said identifiable column has one of said electrical conductors; and

intersections of said columns and said rows define specific regions of the detector.

27. (Previously Presented) A detector according to claim 25, wherein said second conducting layer has conductive yarn extending in a first direction and conductive yarn extending in a second direction, said first direction being different to said second direction.

28. (Previously Presented) A detector according to claim 25, wherein a mechanical interaction has a first property and said detector is configured to present a first

set of varying electrical characteristics in response to said first property of the mechanical interaction such that each varying electrical characteristic of said set of varying electrical characteristics corresponds to one of said specific regions.

29. (Previously Presented) A detector according to claim 25, wherein a partially electrically conducting layer of fabric is disposed between said first and second conducting layers.

30. (Previously Presented) A detector according to claim 25, wherein said first conducting layer and said second conducting layer are separated by two layers of electrically insulating fabric and said two layers of electrically insulating fabric are separated by an electrically conducting layer of fabric.

31. (Previously Presented) A detector according to claim 25, wherein each said identifiable column has an electrical conductor at each of its opposing ends.

32. (Previously Presented) A detector according to claim 31, wherein said first conducting layer and said second conducting layer constitute single fabric which is constructed to comprise an upper portion and a lower portion,

said upper portion comprising non-conductive yarn having insulating fibres extending in a weft direction and conductive yarn having conducting fibres extending in a warp direction, and

said lower portion comprising conductive yarns having conducting fibres extending in said weft direction and non-conductive yarns having insulating fibres extending in said warp direction.

33. (Previously Presented) A detector according to claim 25, wherein said fabric is constructed using a weaving process.

34. (Previously Presented) A detector according to claim 25, wherein said fabric is constructed using a knitting process.

35. (Currently Amended) A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein

a first conducting layer and a second conducting layer are displaced at either side of a third conducting layer such that said third conducting layer provides a conductive path between said first conducting layer and said second conducting layer when said layers are mechanically forced together;

the first of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn;

a plurality of electrical conductors are connected to said conductive yarns in the first of said layers thereby electrically grouping said conductive yarns to define a plurality of identifiable rows;

each said identifiable row has one of said electrical conductors;

at least one identifiable row includes a plurality of lengths of conductive yarn in which one length of conductive yarn of the identifiable row is electrically isolated from another of said lengths of conductive yarn;

a degree of pressure is applied by a mechanical interaction; and

said third conducting layer has a conductivity that increases as the degree of pressure applied by the mechanical interaction increases, thereby facilitating conduction between the first conducting layer and the second conducting layer during the mechanical interaction.

36. (Currently Amended) A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein said detector comprises:

a first conducting layer having a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn,

a second conducting layer is displaced from said first conducting layer,

a pair of electrically insulating fabric layers separating said first conducting layer and said second conducting layer,

a third conducting layer of fabric separating said pair of electrically insulating fabric layers, wherein

said electrically insulating fabric layers and said third conducting layer are configured to allow conduction between said first and second conducting layers when said layers are mechanically forced together, and

a plurality of electrical conductors are connected to said conductive yarns in the first of said layers thereby electrically grouping said conductive yarns to define a plurality of identifiable rows defining specific regions of the detector; and

at least one identifiable row includes a plurality of lengths of conductive yarn in which one length of conductive yarn of the identifiable row is electrically isolated from another of said lengths of conductive yarn.

37. (Currently Amended) A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein

a first conducting layer is displaced from a second conducting layer such that conduction between said conducting layers results when said conducting layers are mechanically forced together, wherein

the first of said conducting layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn,

said second conducting layer has conductive yarn extending in a first direction and conductive yarn extending in a second direction, said first direction being different to said second direction,

a plurality of electrical conductors are connected to said conductive yarns in the first of said layers thereby electrically grouping said conductive yarns to define a plurality of identifiable rows;

at least one identifiable row includes a plurality of lengths of conductive yarn in which one length of conductive yarn of the identifiable row is electrically isolated from another of said lengths of conductive yarn; and

said identifiable rows define specific regions of the detector.